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By Express Mail # EM494170695US • March 12, 1998

Attorney Docket No.: **4100-98DIV**

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UTILITY PATENT APPLICATION TRANSMITTAL

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Assistant Commissioner for Patents
BOX PATENT APPLICATION
Washington, DC 20231

Attorney Docket #: **4100-98DIV**

Sir:

THIS APPLICATION IS A [] CONTINUATION [X] DIVISIONAL [] CONTINUATION-IN-PART OF U.S. PATENT APPLICATION SERIAL NO. 08/786,750 WHICH WAS FILED 1/24/97.

Transmitted herewith for filing is the utility patent application of:

Inventor(s): Alfons SCHUSTER, Michael SCHÖNERT, Alfred HIRT, Robert WEISS,

For: Method of Imaging an Erasable Printing Form

Enclosed are:

1. Copy of Specification (12 p.), Claims 1 to 28 (6 p.) & Abstract (1 p.) from prior application
2. Copy of Executed Declaration and Power of Attorney (4 p.) from prior application
3. Copy of one sheet of drawings (Figs. 1 to 3) from prior application
4. Copy of Assignment of the invention to MAN Roland Druckmaschinen AG from prior application
5. Copy of Recordation Cover Sheet (PTO-1595) from prior application
6. Preliminary Amendment
7. Copy of priority document No. 196 02 328.9 (cover page only)
8. Copies of Information Disclosure Statements from prior application
9. Copies of PTO Form 1449 with copies of cited references from prior application
10. Check for filing fee of $
11. Return Receipt Postcard

The filing fee has been calculated as shown below:

FOR:	Col. 1	Col. 2	SMALL ENTITY	OTHER THAN SMALL ENTITY
	# FILED	# EXTRA		
BASIC FEE			$395	$790
TOTAL CLAIMS	22 - 20 =	2	x 11 = $	x 22 = $ 44
INDEPENDENT CLAIMS	2 - 3 =	0	x 41 = $	x 82 = $
[] MULTIPLE DEPENDENCY			+ 135 = $	+ 270 = $
* If the difference in Col 1 is less than zero, enter "0" in Col 2			TOTAL: $	TOTAL: $ 834

[] Please charge my Deposit Account No. 03-2412 in the amount of $. A duplicate copy of this sheet is enclosed.

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[x] The Commissioner is hereby authorized to charge payment of the following fees associated with this application or credit any overpayment to Deposit Acct. No. 03-2412.

- [x] Any additional filing fees required under 37 CFR 1.16.
- [x] Any patent appl. processing fees under 37 CFR 1.17
- [x] The issue fee set in 37 CFR 1.18 at 3 months from mailing of the Notice of Allowance, pursuant to 37 CFR 1.311 (b) provided the fee has not already been paid by check.
- [x] Any filing fees under 37 CFR 1.16 for presentation of extra claims.

[X] **Incorporation By Reference** (useable if submitting copy of declaration from prior application -- for continuation/divisional applications only):

> The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.

[X] Priority is claimed for this invention and application, corresponding applications having been filed in Germany on January 24, 1996, Application No. 196 02 328.9.

[X] a. Certified copy of the priority document is already of record in U.S. Application Serial No. 08/786,750, filed 1/24/97, receipt of which has been acknowledged by the US PTO on December 17, 1997 in Paper No. 6.

[] b. The certified priority document(s) is (are) enclosed herewith for filing in this continuing application.

[] A Petition for Extension of Time in the parent application is enclosed so that the parent application will be pending as of the time this paper is filed.

[X] The undersigned declares that the copy of the application papers (Specification, Claims, Abstract, Declaration and Power Of Attorney, and drawings filed herewith are true copies of those originally filed in the U.S. Patent Office for Application Serial No. 08/786,750.

[X] The undersigned declares that all statements made herein of his or her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

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New York, New York 10176
(212) 687-2770

By: _____
Thomas C. Pontani
Reg. No. 29,763

Dated: March 12, 1998

Attorney Docket # 4100-98DIV

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Divisional Application of

Alfons SCHUSTER et al.

Parent Serial No.: 08/786,750

Parent Filed: 1/24/97

For: Method of Imaging an Erasable Printing Form

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BOX PATENT APPLICATION
Washington, DC 20231

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[X] Any filing fees under 37 CFR 1.16 for presentation of extra claims.

Respectfully submitted,
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Dated: March 12, 1998

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Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Alfons SCHUSTER et al.

Serial No.: 08/786,750

Filed: 1/24/97

For: Method of Imaging an Erasable Printing Form

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R:

Prior to the issuance of a first Office Action and simultaneously with the filing of the present application, please amend said application as follows:

In the Claims:

Please cancel claims 23 - 28.

REMARKS

This preliminary amendment is presented to delete the apparatus claims 23-28. No new matter has been added. Early examination and favorable consideration of the above-identified application is earnestly solicited.

Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By _____

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March 12, 1998

APPLICATION FOR UNITED STATES LETTERS PATENT

METHOD OF IMAGING AN ERASABLE PRINTING FORM

Inventors: Alfons SCHUSTER
Michael SCHÖNERT
Alfred HIRT
Robert WEIß

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a method of imaging and erasing an erasable printing form.

Description of the Prior Art

From the textbook, "Technologie des Offset-Druck" {Technology of Offset Printing] by R. Riedl, D. Neumann, J. Teubner, (Leipzig), 1989 (1st Edition), it is already known to charge an aluminum printing plate, which bears a photosemi-conductive layer on its surface, electrically as a whole and then expose it in accordance with a picture which is to be printed. At the exposed places of the printing form, the charges flow off while they remain on the non-exposed places. Charged dry or liquid toner particles of opposite electrical charge are then applied by a roller. The toner particles are applied only to the non-exposed places of the printing form. The toner particles which have been applied are then fixed by heat.

European reference EP 0 099 264 A2 discloses a method for illustrating a printing form with dry toner particles. Here, the surface of a substrate is covered in its entirety with electrostatically charged dry toner particles whereupon these particles are melted by laser light in the picture regions so that they adhere firmly to the substrate.

European reference EP 0 580 394 A2 discloses a method for the imaging of a lithographic plate by applation, in which portions of a plastic layer corresponding to a picture to be printed are removed by laser radiation.

SUMMARY OF THE INVENTION

The object of the present invention is to provide a method for imaging and erasing an erasable printing form.

Pursuant to this object, and others which will become apparent hereafter, one aspect of the present invention resides in a method of imaging and erasing an erasable printing form, which includes the steps of electrically charging the printing form on its entire surface so that liquid toner particles, which have either individual charges opposite the charges of the printing form or dipole or multi-dipole moments directed opposite the charges of the printing form, are attracted over their entire surface by the printing form; fixing the liquid toner particles with a source of energy in accordance with a picture to be printed; one of removing and breaking down non-fixed liquid toner particles in a manner which changes ink acceptance behavior; and erasing the printing form as a whole, after an end of a printing process, by removing the fixed liquid toner particles.

One particular advantage of the printing form of the present invention is that it can be erased. The fact that the printing form can be illustrated in a printing press is also advantageous. The printing form is preferably developed as a sleeve without a clamping channel on the form cylinder. An electric potential can be applied to the form cylinder so that toner can be applied to the printing form, as in electro-photographic methods.

A further object of the invention is to provide an erasable printing form that can be used in the inventive method.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming a part of the disclosure. For a better understanding of the invention, its operating advantages, and specific objects attained by its use, reference should be had to the drawing and descriptive matter in which there are illustrated and described preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 shows the attraction of charged toner particles to a charged printing form;

Fig. 2 shows the fixing of toner particles by means of a laser beam; and

Fig. 3 shows the removal of toner particles from the surface of the printing form.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The printing form 1 (Fig. 1) is illustrated by charged particles 2. The printing form 1 consists either of a conductive material or of a dielectric, electrically chargeable material. It is either a foil, for instance of a plastic such as polyester, a metal, for instance aluminum, a ceramic, or a glass. Suitable materials are known from German reference DE 44 26 012 A1. Alloys, in particular nickel-chrome-steels, nickel-chrome-iron alloys or nickel-chrome-molybdenum alloys are also suitable. The surface of the printing form 1 is preferably hydrophilic or hydrophilizable. If the printing form 1 consists of an electrically conductive material, then, during the application of the particles, a potential, which is opposite the charges thereof or the charge distributions which are active in the direction towards the surface of the printing form, is applied to the printing form while the particles 2 are applied. The particles 2 are attracted by the coulomb force. If the surface of the printing form 1 consists of an electrically non-conductive material, then an electrically conductive layer must be present below the layer in order to charge the surface layer by a source of voltage, for instance by corona electrodes.

The particles 2 are preferably toner particles. The toner particles 2 either have color pigments or are unpigmented. The particles 2 also preferably have a diameter of less than 1 μm. By the electrostatic attraction between the surface of the printing form 1 and the particles 2, a very thin uniform layer can be produced. Image information is then applied by means of energy-rich magnetic radiation, in particular laser radiation, corresponding to an image which

is to be printed by the printing form. A laser beam 3 (Fig. 2) is conducted in the region of the image over a layer 4 formed by the particles 2 on the printing form 1. In this way, the particles 2 are cross-linked in the layer 4, whereby the adherence to the surface of the printing form is increased as compared with the unirradiated regions on the printing form. The particles 2 in the unirradiated region are then completely removed from the surface of the printing form by mechanical treatment, electrically, or by ultrasonics, for instance by means of an ultrasonic basin. The image thus produced can, in addition, be further treated in order again to increase the fixing of the layer 4 on the surface of the printing form 1.

The wavelength of the beams used for this, for instance infrared or ultraviolet, depends on the maximum absorption of the material of the layer 4, i.e. of the particles 2. It also depends on the reflection of absorption of the corresponding radiation by the printing form 1 lying below the layer 4. Particularly when the particles 2 themselves do not absorb radiation in the infrared region, it is advantageous for the printing form 1 to contain, at least in its surface, a material, for instance carbon, which absorbs the infrared radiation, or for it to have a black color. Pigmented toner particles, for instance toner particles which contain carbon black or graphite, are also particularly suitable in order to absorb infrared radiation. However, particles 2 which absorb ultraviolet radiation are also suitable if, by the absorption of this radiation, electrical bonding of the particles 2 for the cross-linking and further fixing of the picture regions of the layer 4 are favored. The strength and time of action of the radiation as well as the wavelength thereof therefore depend on the material of the particles 2, the material of which the printing

form 1 consists, as well as the combination of materials of the particles 2 and the printing form 1.

After the illustrating, the surface of the printing form 1 can be subjected on the non-picture regions, i.e. on the regions in which the layer 4 has not been removed, to a further treatment, for instance a hydrophilizing so that it takes on a moistening agent, insofar as a moistening agent is used in the printing process, as in the case, for instance, of wet offset printing. The hydrophilizing of the surface of the printing form 1 can however, also take place before the application of the particles 2 to the entire surface, should this be necessary. After completion of the printing process, the surface of the printing form 1 must be restored again. First of all, printing ink which has remained on the layer 4 and the free regions of the printing form 1 must be removed whereupon the particles 2 in the layer 4 are removed. For this purpose, a solvent, for instance acetone, is applied by means of brushes, nozzles, or a cloth and then removed, together with the traces of the layer 4, by brushing or an absorptive cloth . Ultrasonic treatment is also suitable for the removal of the picture regions of the layer 4.

The thickness of the layer 4 is preferably 1 μm or less. However, it can also be far thinner, for instance only 0.1 μm thick. The particles 2 need not necessarily bear a charge of their own. Other suitable materials are materials the particles of which have dipole, quadripole or other multipole moments which align themselves in the electric field so that they are attracted by an electrically charged surface such as the surface of the printing form 1. The particles 2 are in particular toner particles, the toner being a solid or liquid toner. Both toners having a water base and ones having an oil base can be used. The toner can be both pigmented

(transparent) or non-pigmented. If the toner is non-pigmented, then, if the particles are to be cross-linked by heat radiation on the surface of the printing form 1, the surface of the printing form 1 itself must absorb the infrared radiation. In this way the particles 2 are indirectly heated so that their cross-linking with each other takes place proceeding from the surface of the printing form 1. Similarly, the adherence of the particles 2 to the printing form 1 is favored by this infrared radiation.

Instead of a single toner material, particles of different charge density (Q/m) (Q = charge; m = mass) can be used so that upon the illustrating of the printing form 1 (see Fig. 1), those particles which have the highest charge density are attracted first so that they lie lowermost in the layer 4, while those particles 2 which have the smallest charge density are attracted last, so that they lie on top in the layer 4. Such differences in charge density of the particles 2 can be utilized in order to form the layer 4 from a plurality of sub-layers, which can then be utilized for the printing process, for instance for color differentiation.

For removing particles 2 which have not been cross-linked by the beam 3 from the surface of the printing form 1, methods in which the particles are removed by vacuum are also suitable. The particles can also be removed by electrophoresis, in which case an electric potential is applied to a body which is brought into the vicinity of the printing form -- the body is for instance a roll -- which potential is greater than the potential of the printing form 1. This means that when the printing form 1 is at a negative potential, the roll 1 must have an even stronger negative potential in order to attract the particles 2 which in this case are positively charged or have an electric multipole moment which acts positively towards the outside from the

printing form 1. Means which contact the surface of the printing form 1 mechanically are also suitable, for instance brushes, or liquids which are applied preferably under pressure, for instance by high pressure, onto the surface of the printing form 1 in order to detach the non-cross-linked particles 2 from the surface thereof. For this purpose (Fig. 3) a jet of liquid 6 is applied by a nozzle 5 onto the surface of the printing form, which dissolves the layer 4 in the non-cross-linked regions.

The differentiation of the color absorption behavior of the layer 4 applied in accordance with Fig. 1 can also be obtained in the manner that the layer 4 is removed (ablated) or at least broken down by laser radiation corresponding to the printed picture to be produced so that it has a different acceptance behavior for a printing ink or a moistening agent. Thereupon the remaining toner particles 2 of the layer 4 are cross-linked by heat treatment, in particular by electromagnetic radiation, on the surface of the printing form 1. This means that the removal step (see Fig. 3) is eliminated in this case.

If the fixing of the particles 2 in the layer 4 on the printing form 1, which has been described with reference to Fig. 2, is already sufficiently strong, it is not necessary again to fix the particles 2 remaining on the printing form after the treatment step and after the removal of unneeded particles 2 by heat or radiation. If the radiation by the laser beam, however, has led only to a partial cross-linking of the particles 2 in the picture regions, they -- after the particles 2 have been removed from the non-picture regions -- can be fixed on the printing form 1, by a full-surface treatment of the surface of the printing form 1, including the picture portions of

the layer 4 remaining on it, by heat and particularly by infrared radiation or hot air, so that they remain attached for the duration of a printing run.

If, however, such an after treatment by heat is not necessary, the unirradiated and thus non-crosslinked particles 2 need not be removed from the surface of the printing form 1 since the cleaning in a cleaning step which precedes the printing process or, if there is no such cleaning step, then the first revolutions of the printing unit already cause these particles 2 to be given off to the printing material.

The high-energy radiation for the fixing of the particles 2 on the surface of the printing form 1 (see Fig. 2) can also be obtained by incoherent light sources, for instance a mercury-vapor lamp. For the removal of particles 2 from the surface of the printing form 1, solvents, for instance n-methylpyrrolidone, acid or alkaline aqueous solutions, cleansing agents which act mechanically on the surface of the printing form, or the application of water or a jet of solvent under high pressure, particularly at high temperature, are also suitable. High-energy radiation is also suitable for removing non-cross-linked particles 2 from the surface of the printing form 1. In such case, the radiation, however, must be directed only at those regions where the particles 2 have not been previously (or simultaneously) cross-linked by the beam 3.

As compared with other methods for the illustrating of a printing form, the method of the invention has the advantage that the printing form can be produced within the printing press itself. In particular, a sleeve-shaped printing form can also be used. Such a sleeve-shaped printing form can be replaced by removing it from the sidewall of a printing unit of the printing press, particularly if the surface of the printing form no longer has the desired surface

roughness. Similarly, a printing foil can be used which can be applied for instance by winding on the form cylinder, as known from Federal Republic of Germany 43 04 872 C2. Due to the fact that the layer 4 is very thin, only a very small amount of material is consumed. The thickness of the layer 4 can be controlled and simply reproduced upon the electrostatic charging by the variation of voltage and/or time. A small, flexibly constructed, easily replaceable illustrating unit can be used. Additionally, toner particles or other particles 2 having different chemical and physical properties can be used. Conventional printing forms which are based on an aluminum layer or some other metal can also be used in order to illustrate them in accordance with the invention. The illustrating process can also be carried out outside the printing press.

In accordance with the invention, a method for illustrating a printing form 1 is created in which the printing form 1 is charged on its entire surface and coated on its entire surface with particles 2, in particular toner particles, which bear the opposite charge. Thereupon, the layer 4 formed by the particles 2 is fixed in accordance with the image by a beam 3, in particular a laser beam, especially by infrared radiation, or ablated in accordance with the image. Thereupon the unfixed portions of the layer 4 are removed or the non-ablated portions are fixed by full-surface heat treatment.

The invention is not limited by the embodiments described above which are presented as examples only but can be modified in various ways within the scope of protection defined by the appended patent claims.

CLAIMS

I claim:

1. A method of imaging and erasing an erasable printing form, comprising the steps of: electrically charging the printing form over its entire surface, so that liquid toner particles, which have one of individual charges opposite the charges of the printing form, and dipole and multi-pole moments directed opposite the charges of the printing form, are attracted over their entire surface by the printing form; fixing the liquid toner particles with a source of energy in accordance with a picture to be printed; one of removing and breaking down non-fixed liquid toner particles in a manner which changes ink acceptance behavior; and erasing the printing form as a whole, after an end of a printing process, by removing the fixed liquid toner particles.

2. A method according to Claim 1, including, for imaging, fixing the liquid toner particles on one of image locations and non-image locations of the printing form and, in corresponding manner, removing the liquid toner particles from one of the non-image locations and the image locations, respectively.

3. A method according to Claim 1, wherein the charging step includes charging a printing form having a conductive surface.

4. A method according to Claim 3, wherein the charging step includes charging a metal printing form.

5. A method according to Claim 1, wherein the charging step includes charging a printing form that has a dielectric on its surface.

6. A method according to Claim 5, including charging the dielectric surface of the printing form by corona charging.

7. A method according to Claim 1, wherein the fixing step includes fixing a layer of the liquid toner particles applied to the surface of the printing form with a beam of electromagnetic waves.

8. A method according to Claim 7, wherein the fixing step includes fixing the liquid toner particles with a laser beam.

9. A method according to Claim 7, wherein the fixing step includes fixing the liquid toner particles with a beam in the infrared region.

10. A method according to Claim 1, including providing one of the liquid toner particles and the printing form with an absorber material for absorbing the energy.

11. A method according to Claim 10, wherein the absorber material is plastic.

12. A method according to Claim 1, wherein the removing step includes removing the liquid toner particles which are not fixed on the surface of the printing form by one of a mechanical force, a solvent which is applied under pressure, absorption, an electric field, and ultrasonics.

13. A method according to Claim 7, and further comprising the step of additionally fixing portions of the layer which have remained on the surface of the printing form by full-surface treatment with energy-rich radiation.

14. A method according to Claim 13, wherein the additional fixing step includes fixing the portions of the layer which have remained on the surface of the printing form with heat radiation.

15. A method according to Claim 1, and further comprising the step of hydrophilizing regions of the printing form which are not covered by the liquid toner particles for wet offset printing.

16. A method according to Claim 1, wherein the fixing step includes fixing the liquid toner particles using a focused non-coherent light source for cross-linking the liquid toner particles on the surface of the printing form.

17. A method according to Claim 16, wherein the fixing is carried out using a mercury-vapor lamp.

18. A method according to Claim 1, wherein the removing step includes ablating the liquid toner particles from the surface of the printing form using a focused and non-coherent light source.

19. A method according to Claim 1, wherein the erasing step includes removing a remainder of the layer of fixed particles with one of a solvent, an acid, an alkaline aqueous solution, a mechanical force, a high temperature, high-energy radiation, and ultrasonics.

20. A method according to Claim 1, wherein the erasing step includes removing the remaining layer of fixed particles with an organic solvent.

21. A method according to Claim 19, wherein the erasing step includes removing the remaining layer of fixed particles with one of an acid and an alkaline aqueous solution under high pressure, so that the particles are dissolved.

22. A method according to Claim 19, wherein the erasing step includes removing the remaining of the layer of fixed particles with one of a brush and a cleaning cloth.

23. An erasable printing form configured so as to be electrically chargeable on its entire surface so that liquid toner particles, which have one of individual charges opposite the charges of the printing form, dipole and multi-dipole moments directed opposite the charges of the printing form, are attracted to the printing form, the printing form being further configured so that the liquid toner particles can be fixed by a source of energy in accordance with a picture to be printed, the printing form being still further configured so that non-fixed liquid toner particles can be one of removed and broken down in a manner which changes ink acceptance behavior, the printing form yet further being configured so that the fixed liquid toner particles can be removed.

24. A printing form according to Claim 23, wherein the printing form is configured so as to be imagable and erasable within a printing press.

25. A printing form according to Claim 23, wherein the printing form is configured as one of a printing plate, a printing foil, and a sleeve.

26. An erasable printing form configured so as to be electrically chargeable on its entire surface so that charged particles, which have one of individual charges opposite the

charges of the printing form, dipole and multi-dipole moments directed opposite the charges of the printing form, are attracted to the printing form, the printing form being further configured so that the charged particles can be fixed by a source of energy in accordance with a picture to be printed, the printing form being still further configured so that non-fixed charged particles can be one of removed and broken down in a manner which changes ink acceptance behavior, the printing form yet further being configured so that the fixed charged particles can be removed.

27. A printing press, comprising a form cylinder, and an erasable printing form configured so as to be electrically chargeable on its entire surface so that liquid toner particles, which have one of individual charges opposite the charges of the printing form, dipole and multi-dipole moments directed opposite the charges of the printing form, are attracted to the printing form, the printing form being further configured so that the liquid toner particles can be fixed by a source of energy in accordance with a picture to be printed, the printing form being still further configured so that non-fixed liquid toner particles can be one of removed and broken down in a manner which changes ink acceptance behavior, the printing form yet further being configured so that the fixed liquid toner particles can be removed.

28. A printing press according to Claim 27, and further comprising an imaging unit arranged so as to image the printing form.

ABSTRACT OF THE DISCLOSURE

A method for imaging a printing form in which the printing form is charged on its entire surface and is coated on its entire surface with particles, in particular toner particles, which bear the opposite charge. The layer formed by the particles is then fixed in accordance with the image by a beam, in particular a laser beam, and especially by infrared radiation, on the surface of the printing form or ablated in accordance with the image. Thereupon, the unfixed portions of the layer are removed or the non-ablated portions are fixed by full-surface heat treatment.

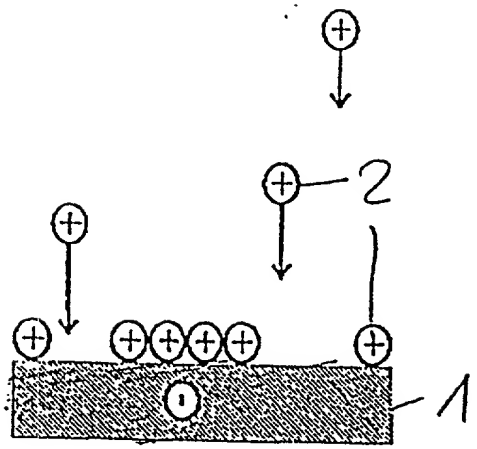

Fig. 1

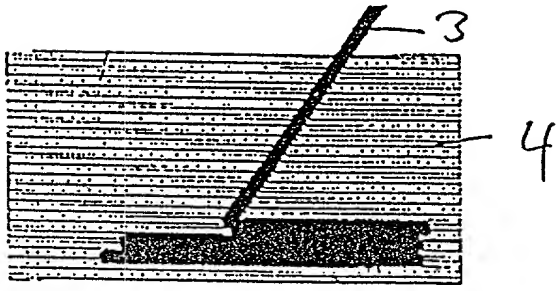

Fig. 2

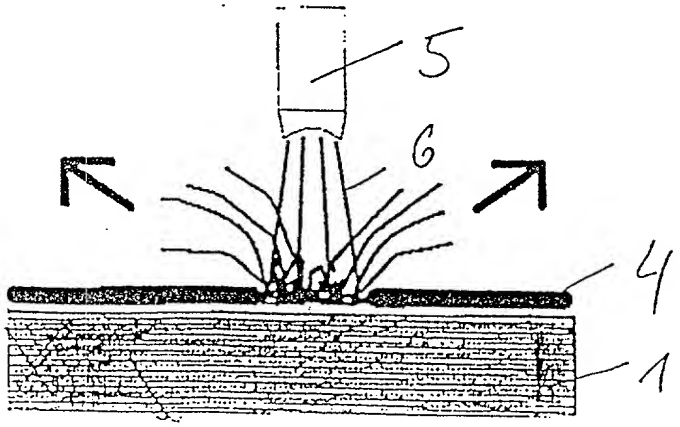

Fig. 3

DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As the below named inventors, we hereby declare that:

Our residence, post office address and citizenship are as stated below next to our names.

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD OF ILLUSTRATING AN ERASABLE PRINTING FORM,

the specification of which is attached hereto.

We hereby state that we reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).

We also acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37 CFR 1.63(d), which occurred between the filing date of the prior application and the filing date of the continuation-in-part application, if this is a continuation-in-part application.

We hereby claim foreign priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for the patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s):	**Country:**	**Germany**
	Appln. No.:	**196 02 328.9**
	Filed:	**January 24, 1996**

We hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

MYRON COHEN, Reg. No. 17,358; THOMAS C. PONTANI, Reg. No. 29,763; LANCE J. LIEBERMAN, Reg. No. 28,437; MARTIN B. PAVANE, Reg. No. 28,337; MICHAEL C. STUART, Reg. No. 35,698; JAMES J. DeCARLO, Reg. No. 36,120; CAROL E. ROZEK, Reg. No. 36,993; EDWARD M. WEISZ, Reg. No. 37,257; KLAUS P. STOFFEL, Reg. No. 31,668; CHI K. ENG, Reg. No. 38,870; EDWARD ETKIN, Reg. No. 37,824; CHERYL COHEN, Reg. No. 40,361; and JULIA S. KIM, Reg. No. 36,567.

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We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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